INTERPRETING DATA FROM SOLUBILITY CURVES

DIRECTIONS: Use the solid solubility curve given to you to solve the following problems.

To start, use your ion sheet to write formulas for the following compounds.

Potassium Nitrate _____

Sodium Chloride _____

Potassium Chloride _____

_____1) What is the solubility of potassium nitrate in 100 grams of water at 90°C?

_____2) What is the solubility of potassium chloride in 100 grams of water at 50°C?

_____3) What is the solubility of sodium chloride in 100 grams of water at 90°C?

_____4) What is the minimum temperature needed to dissolve 180 grams of potassium nitrate in 100 grams of water

_____5) At what temperature do potassium chloride and potassium nitrate have the same solubility?

_____6) If 110 grams of potassium chloride are mixed with 100 grams of water at 20 °C, how much will *not* dissolve?

_____7) If 250 grams of potassium nitrate are mixed with 100 grams of water at 80 °C, how much will *not* dissolve?

_____8) If 15 grams of potassium chloride are added to 100 grams of water at 30 °C, how much more must be added to make a saturated solution?

_____9) If 25 grams of potassium nitrate are added to 100 grams of water at 80 °C, how much more must be added to saturate the solution?

_____10) If 100 grams of water at 90 °C are saturated with potassium nitrate. If this solution is cooled to 30^{o}C, how much of the solid will precipitate (change from the dissolved state to the solid state)?

_____11) How much potassium nitrate will dissolve in *50 grams of water* at 90 °C?

_____12) How much potassium chloride will dissolve in *25 grams of water* at 80 °C?